Original

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United States Coast Guard

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Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th St. S.W.
Washington, D.C. 20554

RE: RM-9165

Dear Ms. Salas:

The U.S. Coast Guard respectfully submits the following comments in response to the Notice of Proposed Rulemaking in IB Docket No. 99-67.

Sincerely,

JOSEPH D. HERSEY, JR.
Chief, Spectrum Management Division
By direction

Encl: (1) Comments of the United States Coast Guard

Copy: FCC
International Bureau

Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

In the Matter of	)	
	)	
Amendment of Parts 2 and 25 to Implement	)	IB Docket No. 99-67
the Global Mobile Personal Communications	)	
by Satellite (GMPCS) Memorandum	)	
of Understanding and Arrangements	)	
	)	
Petition of the National Telecommunications and	)	RM No. 9165
Information Administration to Amend Part 25 of	)	
the Commission's Rules to Establish Emissions	)	
Limits for Mobile and Portable Earth Stations	)	
Operating in the 1610-1660.5 MHz Band	)	

COMMENTS OF THE UNITED STATES COAST GUARD

The United States Coast Guard (Coast Guard) respectfully submits these Comments in response to the Notice of Proposed Rulemaking (Notice) RM-9165 released March 5, 1999 in the above-captioned proceeding. These comments address distress and safety communications and E-9-1-1 requirements as requested by the Commission. The Coast Guard will not address other issues in this proceeding, as its views on those issues have been coordinated with other federal agencies through the Interdepartmant Radio Advisory Committee, and incorporated in the National Telecommunications and Information Administration's (NTIA) comments to the Commission.

Introduction

1. The Coast Guard operates 56 centers throughout the United States, plus similar centers outside the country, to respond to maritime emergencies. These centers maintain

emergency telephone numbers to allow people to report overdue vessels, observed boaters in distress, or other emergencies. During fiscal year 1997, the Coast Guard assisted 74,740 people and saved 3,836 lives. We also received over 40,000 emergency calls over a variety of different telecommunications systems that year. The property assisted was valued at nearly 1.8 billion dollars. In fiscal year 1992, the Coast Guard received 706 suspected hoax calls, 15 of which were confirmed; those confirmed calls cost the taxpayer $2,618,125.

2. Mariners use a variety of telecommunications systems for sending emergency calls to the Coast Guard. Most such calls are over government-operated systems, such as the VHF National Distress System, the COSPAS-SARSAT satellite system, or systems recognized by the International Maritime Organization's (IMO's) Global Maritime Distress & Safety System (GMDSS). However a large and growing number of emergency calls are received over cellular telephone systems[1]. As other wireless systems become available, we expect a large number of emergency calls to be sent over those systems. In recognition of the public demand for such a capability, Coast Guard regulations (46 CFR 28.245(c) and (d)) allow commercial fishing industry vessels to carry cellular or unspecified satellite communications equipment to meet Congress' mandate that these vessels carry radiocommunications equipment[2]. It is essential that either all of these wireless systems

[1] In fact, many carriers have added a maritime safety feature, whereby calls initiated by "*CG" are automatically routed to the nearest appropriate Coast Guard Group or Activity Operations Center. This "*CG" service has been well advertised in the maritime community and its use is common.

[2] See Commercial Fishing Industry Vessel Safety Act (46 USC Sections 4501-08). Section 4502, Safety Standards, provides that:

(a) The Secretary shall prescribe regulations which require each vessel to which this chapter applies shall be equipped with ...

(7) alerting and locating equipment ... on vessels that operate on the high seas...

(b) (1) In addition to the requirements of subsection (a) of this section, the Secretary shall prescribe regulations requiring the installation, maintenance, and use of the equipment in paragraph (2) of this subsection for documented vessels to which this chapter applies that...

provide a reliable and efficient means of alerting and communicating with a rescue coordination center (RCC) in an emergency, or that those incapable of providing such a service clearly indicate that limitation to its potential customers.

3. With the increasing use of cellular mobile telephones by mariners for Coast Guard emergency assistance and the potential proliferation of other wireless mobile systems that will be used by mariners for making emergency calls, Coast Guard command centers must rely on a GMPCS mobile system's capability to provide information to enable them to identify and locate callers needing assistance, and to assist in the prosecution of hoax callers. Additionally, users will expect equivalent procedures for emergency calling from GMPCS phones as they do for other Commercial Mobile Radio Service (CMRS) wireless and wireline phones. If no rules or different emergency calling rules are established for MSS providers, this may lead to confusion and the possibility of emergency calls not being forwarded to the correct emergency response agency.
4. The National Search and Rescue Committee (NSARC), formerly the Interagency Committee on Search and Rescue (ICSAR), is a federal interagency standing committee chartered to oversee the National Search and Rescue Plan, coordinate development of interagency policies and positions on SAR matters, provide and interface with other national agencies involved with emergency services, and provide a forum for coordinated development of compatible procedures and equipment to increase the effectiveness and

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Cont. (2) The equipment to be required is as follows:

(A) alerting and locating equipment...

(D) radiocommunications equipment sufficient to effectively communicate with land-based search and rescue facilities; ... and ...

(G) other equipment required to minimize the risk of injury to the crew during vessel operations, if the Secretary determines that a risk of serious injury can be eliminated or mitigated by that equipment.

The Commandant of the Coast Guard prescribes these regulations. 46 CFR 28.10.

standardization of SAR operations. The NSARC Commercial Mobile Satellite Services Working Group (CMSS) was formed to enable the MSS providers to better understand the needs of Search and Rescue (SAR) and Disaster Support (DS) operations and to gather information and understanding from MSS providers that could be used by the SAR and DS community to fulfill their communications needs in the future. The CMSS Group is composed of representatives of the government agencies involved in SAR, MSS providers, and other relevant organizations. With the cooperation of 13 current and future MSS providers, the CMSS developed a "Search and Rescue and Disaster Support MSS Capabilities Comparison Paper" (Capabilities Paper) to identify the current and future operational capabilities of MSS operators that the SAR and DS communities believe to be essential to support SAR and DS operations. This paper should prove useful to the Commission in this proceeding and is attached as enclosure 1.

Distress and Safety Communications and E-9-1-1 Requirements

4. The Commission asks a number of important questions related to GMPCS and E-911 of interest to the Coast Guard. (1) It requests comment on whether to require GMPCS terminals authorized for use in the United States to have position location capabilities. If so, it asks if the 125-meter RMS standard applicable to terrestrial systems should be used or should a different criterion be established for MSS systems? (2) It seeks comment on whether it should require GMPCS systems to implement their systems with enhanced 9-1-1 capabilities. (3) It also seeks comment on how the location accuracy requirement of Phase I would be applied, or would a Phase II-type requirement be more appropriate or practicable. (4) Finally, it asks if automatic number identification (ANI) can be provided by MSS systems. Responses to the questions above are contained in sequential order in the following pages.

Should GMPCS terminals have position location capabilities? If coordinates are to be provided, can the 125-meter RMS standard be used or should a different criterion be established?

5. As many commenters and petitioners that have Petitioned for Waiver of Section 20.18(e) of the Commission's Rules for E-911 (CC Docket No. 94-102) have noted, "In the three years that have passed since CTIA and three public safety associations filed the original Consensus Agreement with the Commission, there have been dramatic developments in both network and handset-based location technologies."[3]. For example, it has been noted that "there have been a number developments to other solutions, particularly handset based solutions using Global Positioning Satellite ("GPS") technology."[4] It is also stated that "there are indications that ALI-enabled handsets may be commercially available well in advance of the current Phase II compliance deadline.[5] AT&T also believes that handset based technology may be the best solution in the long run for many applications [6]. An ALI vendor has indicated that more than 16 manufacturers are also currently proceeding with prototypes that integrate GPS into handsets for the provision of ALI information[7]. Clearly, a handset approach for the purpose of delivering ALI information is soon to become a reality, at least for cellular networks. Correspondingly, most Mobile Satellite Systems which are either currently on-line or which are planning to go on-line in the near future are capable of obtaining position accuracy within 125 meters as required in Phase II of the FCC's E-911 Order. Many of these MSS providers are using GPS contained in the handset to obtain location accuracy. The Coast Guard therefore submits that the Commission should require all such systems to have position location capabilities using a criterion at least as accurate as the 125-meter RMS standard.

[3] CTIA Comments at 2
[4] Airtouch Comments at 4
[5] ibid
[6] AT&T Comments at 2
[7] SnapTrack Press release at 1

Should the FCC require that GMPCS systems implement their systems with enhanced 9-1-1 capabilities?

6. At a minimum, in order to accomplish Coast Guard rescue missions without delay and to prosecute hoax calls when they do occur, any wireless system should be capable of providing the following information to the Public Service Answering Point (PSAP) or Local Exchange Carrier in the delivery of emergency calls:

Location of the call's origin
Mobile transmitter subscriber's name
Mobile transmitter subscriber's call back number
Priority of the call
Routing information

7. This information is important for two reasons. First, Coast Guard rescue coordination centers must know the identity of a person in a maritime emergency situation or reporting a maritime emergency, so that we can respond quickly with rescue facilities and call back that person if communications are lost. Second, we receive a growing number of hoax calls by telephone, each of which costs the taxpayer in reduced availability of Coast Guard resources for responding to actual distress calls, and thousands of dollars in fuel for unnecessary use of helicopters, boats, and other resources. We will depend increasingly on the capability to identify the hoax caller for prosecution purposes and discourage others from making such calls.

8. The CMSS Capabilities Paper helps to identify which of the 13 MSS providers may or plan to provide the 5 essential items of information listed above. The items listed are not only essential, as indicated in the Capabilities Paper many of these capabilities are currently or will be implemented in the various systems listed. In order for these capabilities to be made useful to aid the public however, regulation is required to mandate compatibility standards for these functions and operations.

9. **Location of the call's origin:** Location accuracy is essential in SAR cases. Without it, the Coast Guard would have to depend on the location information conveyed by those actually in distress; experience shows this will often be inaccurate. A much better solution would be for ALI from the handset to provide the location. As discussed earlier, GPS-based handset technology has developed substantially.

10. **Mobile transmitter subscriber's name:** Essential to the rescue effort and as an aid in the prosecution of hoax call cases.

11. **Mobile transmitter subscriber's call back number:** This function is essential for the Coast Guard to be able to contact the caller if the initial connection is severed, and as an aid in hoax call cases.

12. **Priority of the call:** This function may used to determine the priority of a call and help to identify distress emergencies immediately. It may be also used as a tool for preemption of other calls to ensure distress or emergency priority calls are completed.

13. **Routing information:** It is essential that distress calls from MSS users be forwarded efficiently and quickly to the applicable PSAP.

How should the accuracy location requirement of Phase I be applied? Or, would only a Phase II-type requirement be more appropriate or practicable for MSS systems?

14. In order for the Coast Guard to make use of location in SAR situations, Phase II accuracy is mandatory. If the accuracy obtained was comparable to Phase I requirements the Coast Guard would need to search over many square miles which may result in rescue delays or no rescue at all.

Can automatic number identification (ANI) be provided by MSS systems?

15. As stated earlier, this is an essential component of an E-911 system for the Coast Guard to have call back capability and to aid in identifying hoax callers.

Applicability of Proposed Compatibility Requirements

16. While the majority of GMPCS two-way systems will provide only voice communications, some of the systems soon to be deployed will provide a data-only service, and others will provide both voice and data. Many customers of data-only services will be using these terminals aboard ship and may need to use them in times of distress. Therefore, we believe that any proposed compatibility requirements should apply to all two-way wireless voice and data systems which fall under the classification of GMPCS.

17. Provisions do not yet exist for automatically forwarding emergency calls from store-and-forward data systems, such as the small LEO satellite systems, to a PSAP or RCC. Until these problems are resolved, we propose that such carriers provide persons who will ensure that appropriate PSAPs or RCCs are notified of emergency messages when they are received by the carrier. In implementing the Global Maritime Distress and Safety System, the International Maritime Organization prepared "Criteria for Use when Providing

Inmarsat Shore-based Facilities" for use in the GMDSS to address reliability of delivering emergency messages over store-and-forward satellite systems. We propose these criteria, attached hereto as Enclosure 2, be considered in this proceeding.

Wireless Systems That Provide International Access

18. We note that some of GMPCS systems will provide international access, and therefore should be subject to compatibility requirements similar to those proposed in this Notice for domestic providers. A U.S. mariner, for example, navigating outside of U.S. waters within a provider's known coverage area may attempt to use his mobile radio for emergency calling to a foreign emergency service provider and may be unable to get assistance immediately because of the nonexistence or lack of international compatibility standards. Similarly, a foreign mariner using a wireless system licensed by a foreign government may have the same difficulty in U.S. waters. The International Maritime Organization is currently working to resolve mobile satellite international access for emergency calls from ships over mobile satellite. See enclosure 2.

19. We request that the Commission closely coordinate the adoption of its compatibility requirements and standards with international regulatory bodies, such as the International Telecommunications Union Sector for Radiocommunications, Study Group 8, as well as the ITU Sector for Telecommunications, to ensure the adoption of standards that will allow these wireless systems to transmit ALI, ANI, priority, and routing information that will be decoded by emergency service providers in this and other countries.

Wireless Service Provider Coverage Areas

20. The Notice does not address the issue of coverage as it relates to the geographic areas

where a wireless service provider would make its emergency features available. This is a very important issue for the Coast Guard, especially in the case of a mobile satellite system providing service to a portion of, or all, of an ocean area. Similarly, a cellular radio telephone service provider may only guarantee coverage several miles from shore. For example, neither our inspectors nor mariners using non-maritime wireless communications equipment complying with the requirements of 46 CFR 28.245 have any definitive way of knowing if these systems will work in the vessel's intended operating area. Some of the LEO proponents, for example, may not intend to provide service coverage to certain ocean areas for economic reasons.

21. We propose that the service provider make available to its customers and the FCC the geographical areas over which it intends to provide emergency calling features. Additionally, service providers should similarly report all changes in their geographical service areas, whether temporary or permanent. This information is essential to the mariner who travels into an ocean area not covered by the service he or she subscribed to, and would strongly suggest use of an alternate means of emergency calling.

Basic Connectivity

22. Users of existing satellite communications systems, such as Inmarsat land mobile systems, have no means of contacting a PSAP, even by dialing 911, except by going through a service provider operator at the land earth station. If the provider's land earth station were automated and an operator were not available on a 24 hour basis, users would have no means of reaching a PSAP in an emergency. We suspect this problem may also exist with operational or planned satellite systems. The Coast Guard believes it to be absolutely essential that every mobile satellite system provide a means of reaching a PSAP in an emergency on a 24 hour basis. Because of our unique responsibility to accept emergency calls from outside the local 911 area, from any mobile or mobile satellite service, and from

out of state, we must rely on emergency numbers over public switched lines.

Labeling

23. The Coast Guard requests that all consumer wireless equipment have full E-911 capability. If the Commission does not agree, then at a minimum, any consumer wireless equipment that is not capable of providing an emergency calling function should be labeled to clearly indicate that the equipment cannot be used for emergency purposes.

Availability

24. The FCC has previously proposed that "**a user have the ability to reach emergency services from any service initialized mobile radio handset in a home service area or a subscribed-to roamed service area by dialing only 911**" [8]. We concur, and recommend such service be available in any compatible service area.

Summary

25. It is essential that all two-way wireless voice and data systems falling under the classification of GMPCS provide a reliable and efficient means of calling and communicating with a rescue coordination center in an emergency. Failing that, those systems incapable of providing such a service must clearly indicate that limitation to its customers.

26. Any wireless system should be capable of providing the following information to the PSAP or local exchange carrier in the delivery of emergency calls:

    Location of the call's origin
    Mobile transmitter subscriber's name

[8] NPRM CC Docket 94-102

Mobile transmitter subscriber's call back number
Priority of the call
Routing information

27. The proposed compatibility requirements should apply to all two-way wireless voice and data systems, which fall under the classification of GMPCS that intend to incorporate emergency calling features in their user terminals.

28. The Coast Guard proposes that carriers providing store-and-forward services provide persons who will ensure that appropriate PSAPs or rescue centers are notified of emergency messages when they are received by the carrier, and that the attached IMO criteria be considered in addressing reliability of delivering emergency messages over store-and-forward satellite systems.

29. The Coast Guard requests that the Commission closely coordinate the adoption of its compatibility requirements and standards with International Regulatory bodies.

30. The Coast Guard proposes that every service provider make available to its customers and the FCC the geographical areas over which it intends to provide emergency calling features. Additionally, service providers should similarly report all changes in their geographical service areas, whether temporary or permanent.

31. The Coast Guard believes it to be absolutely essential that every mobile satellite system provide a means of reaching a PSAP in an emergency on a 24 hour basis.

32. The Coast Guard believes that any consumer wireless equipment that is not capable of providing an emergency calling function should be labeled stating that the equipment cannot be used for emergency purposes.

Respectfully Submitted,

Joseph D. Hersey, Jr.
Chief, Spectrum Management Division
By Direction of the Commandant

Commandant (G-SCT-2)
United States Coast Guard
Washington, D.C. 20593-0001

Enclosures:

(1) IMO Criteria for Use when Providing Inmarsat Shore- based Facilities

(2) Search and Rescue and Disaster Support MSS Capabilities Comparison Developed By the ICSAR CMSS Working Group

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provide a reliable and efficient means of alerting and communicating with a rescue coordination center (RCC) in an emergency, or that those incapable of providing such a service clearly indicate that limitation to its potential customers.

3. With the increasing use of cellular mobile telephones by mariners for Coast Guard emergency assistance and the potential proliferation of other wireless mobile systems that will be used by mariners for making emergency calls, Coast Guard command centers must rely on a GMPCS mobile system's capability to provide information to enable them to identify and locate callers needing assistance, and to assist in the prosecution of hoax callers. Additionally, users will expect equivalent procedures for emergency calling from GMPCS phones as they do for other Commercial Mobile Radio Service (CMRS) wireless and wireline phones. If no rules or different emergency calling rules are established for MSS providers, this may lead to confusion and the possibility of emergency calls not being forwarded to the correct emergency response agency.

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8. This information is important for two reasons. First, Coast Guard rescue coordination centers must know the identity of a person in a maritime emergency situation or reporting a maritime emergency, so that we can respond quickly with rescue facilities and call back that person if communications are lost. Second, we receive a growing number of hoax calls by telephone, each of which costs the taxpayer in reduced availability of Coast Guard resources for responding to actual distress calls, and thousands of dollars in fuel for unnecessary use of helicopters, boats, and other resources. We will depend increasingly on the capability to identify the hoax caller for prosecution purposes and discourage others from making such calls.

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17. While the majority of GMPCS two-way systems will provide only voice communications, some of the systems soon to be deployed will provide a data-only service, and others will provide both voice and data. Many customers of data-only services will be using these terminals aboard ship and may need to use them in times of distress. Therefore, we believe that any proposed compatibility requirements should apply to all two-way wireless voice and data systems which fall under the classification of GMPCS.

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Wireless Systems That Provide International Access

19. We note that some of GMPCS systems will provide international access, and therefore should be subject to compatibility requirements similar to those proposed in this Notice for domestic providers. A U.S. mariner, for example, navigating outside of U.S. waters within a provider's known coverage area may attempt to use his mobile radio for emergency calling to a foreign emergency service provider and may be unable to get assistance immediately because of the nonexistence or lack of international compatibility standards. Similarly, a foreign mariner using a wireless system licensed by a foreign

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Wireless Service Provider Coverage Areas

21. The Notice does not address the issue of coverage as it relates to the geographic areas where a wireless service provider would make its emergency features available. This is a very important issue for the Coast Guard, especially in the case of a mobile satellite system providing service to a portion of, or all, of an ocean area. Similarly, a cellular radio telephone service provider may only guarantee coverage several miles from shore. For example, neither our inspectors nor mariners using non-maritime wireless communications equipment complying with the requirements of 46 CFR 28.245 have any definitive way of knowing if these systems will work in the vessel's intended operating area. Some of the LEO proponents, for example, may not intend to provide service coverage to certain ocean areas for economic reasons.

22. We propose that the service provider make available to its customers and the FCC the geographical areas over which it intends to provide emergency calling features. Additionally, service providers should similarly report all changes in their geographical service areas, whether temporary or permanent. This information is essential to the

mariner who travels into an ocean area not covered by the service he or she subscribed to, and would strongly suggest use of an alternate means of emergency calling.

Basic Connectivity

23. Users of existing satellite communications systems, such as Inmarsat land mobile systems, have no means of contacting a PSAP, even by dialing 911, except by going through a service provider operator at the land earth station. If the provider's land earth station were automated and an operator were not available on a 24 hour basis, users would have no means of reaching a PSAP in an emergency. We suspect this problem may also exist with operational or planned satellite systems. The Coast Guard believes it to be absolutely essential that every mobile satellite system provide a means of reaching a PSAP in an emergency on a 24 hour basis. Because of our unique responsibility to accept emergency calls from outside the local 911 area, from any mobile or mobile satellite service, and from out of state, we must rely on emergency numbers over public switched lines.

Labeling

24. The Coast Guard requests that all consumer wireless equipment have full E-911 capability. If the Commission does not agree, then at a minimum, any consumer wireless equipment that is not capable of providing an emergency calling function should be labeled to clearly indicate that the equipment cannot be used for emergency purposes.

Availability

25. The FCC has previously proposed that "**a user have the ability to reach emergency services from any service initialized mobile radio handset in a home service area or a subscribed-to roamed service area by dialing only 911**" [8]. We concur, and recommend

[8] NPRM CC Docket 94-102

such service be available in any compatible service area.

Summary

26. It is essential that all two-way wireless voice and data systems falling under the classification of GMPCS provide a reliable and efficient means of calling and communicating with a rescue coordination center in an emergency. Failing that, those systems incapable of providing such a service must clearly indicate that limitation to its customers.

27. Any wireless system should be capable of providing the following information to the PSAP or local exchange carrier in the delivery of emergency calls:

    Location of the call's origin
    Mobile transmitter subscriber's name
    Mobile transmitter subscriber's call back number
    Priority of the call
    Routing information

28. The proposed compatibility requirements should apply to all two-way wireless voice and data systems, which fall under the classification of GMPCS that intend to incorporate emergency calling features in their user terminals.

29. The Coast Guard proposes that carriers providing store-and-forward services provide persons who will ensure that appropriate PSAPs or rescue centers are notified of emergency messages when they are received by the carrier, and that the attached IMO criteria be considered in addressing reliability of delivering emergency messages over store-and-forward satellite systems.

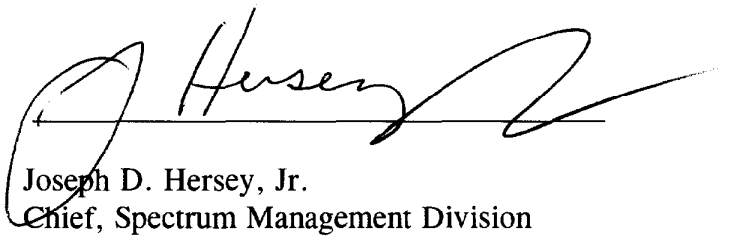
30. The Coast Guard requests that the Commission closely coordinate the adoption of its compatibility requirements and standards with International Regulatory bodies.

31. The Coast Guard proposes that every service provider make available to its customers and the FCC the geographical areas over which it intends to provide emergency calling features. Additionally, service providers should similarly report all changes in their geographical service areas, whether temporary or permanent.

32. The Coast Guard believes it to be absolutely essential that every mobile satellite system provide a means of reaching a PSAP in an emergency on a 24 hour basis.

33. The Coast Guard believes that any consumer wireless equipment that is not capable of providing an emergency calling function should be labeled stating that the equipment cannot be used for emergency purposes.

Respectfully Submitted,



Joseph D. Hersey, Jr.
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By Direction of the Commandant

Commandant (G-SCT-2)
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Enclosures:

(1) IMO Criteria for Use when Providing Inmarsat Shore- based Facilities

(2) Search and Rescue and Disaster Support MSS Capabilities Comparison Developed By the ICSAR CMSS Working Group